

**WHAT IS CLAIMED IS:**

1. A 3D jigsaw puzzle comprising:

a frame defining therein a space;

multiple substantially triangular prism sets each rotatably received in the space of the frame and having a triangular prism respectively having multiple side faces;

pieces detachably mounted on the side faces of the triangular prisms and respectively having thereon a pattern so configured that pictures are presented when the patterns of the pieces on side faces of the triangular prisms are combined; and

means for rotating the multiple substantially triangular prism sets so as to rotate the pictures.

2. The 3D jigsaw puzzle as claimed in claim 1, wherein the pieces include top pieces, mediate pieces and bottom pieces, wherein each top piece has a flat top side face corresponding to a top side face of the frame, two opposite tapered side faces and a bottom face, each bottom piece has a flat bottom side face corresponding to a bottom side face of the frame, two opposite tapered side faces and a top face, each of the mediate piece has a top face configured to complementarily correspond to a bottom face of an adjacent mediate piece or the bottom face of the top piece, two tapered side faces and a bottom face configured to complementarily correspond to a top face of an adjacent mediate piece or the top face of the bottom piece, such that after the top pieces, the mediate pieces and the bottom pieces are combined on the side faces of the triangular prisms, the pictures are presented.

3. The 3D jigsaw puzzle as claimed in claim 2, wherein one top piece, one bottom piece and multiple mediate pieces are able to cover one side face of one of the triangular prisms.



1           4. The 3D jigsaw puzzle as claimed in claim 1, wherein each of the triangular  
2 prisms has grooves respectively defined in the side faces along a longitudinal axis of the  
3 triangular prisms and each of the pieces has at least one extension extending out from a  
4 rear side face of the piece to correspond to the groove of the side face.

5           5. The 3D jigsaw puzzle as claimed in claim 2, wherein each of the triangular  
6 prisms has grooves respectively defined in the side faces along a longitudinal axis of the  
7 triangular prisms and each of the pieces has at least one extension extending out from a  
8 rear side face of the piece to correspond to the groove of the side face.

9           6. The 3D jigsaw puzzle as claimed in claim 3, wherein each of the triangular  
10 prisms has grooves respectively defined in the side faces along a longitudinal axis of the  
11 triangular prisms and each of the pieces has at least one extension extending out from a  
12 rear side face of the piece to correspond to the groove of the side face.

13           7. The 3D jigsaw puzzle as claimed in claim 1, wherein the rotating means  
14 includes a connection head mounted on a bottom end of the triangular prism and having  
15 a first gear formed on a bottom face of the connection head, a second gear meshed with  
16 the first gear to be operateably connected to a motor such that when the motor is  
17 activated, the rotation of the second gear drives the first gear to rotate and the triangular  
18 prism is also rotated.

19           8. The 3D jigsaw puzzle as claimed in claim 2, wherein the rotating means  
20 includes a connection head mounted on a bottom end of the triangular prism and having  
21 a first gear formed on a bottom face of the connection head, a second gear meshed with  
22 the first gear to be operateably connected to a motor such that when the motor is  
23 activated, the rotation of the second gear drives the first gear to rotate and the triangular  
24 prism is also rotated.



1           9. The 3D jigsaw puzzle as claimed in claim 3, wherein the rotating means  
2 includes a connection head mounted on a bottom end of the triangular prism and having  
3 a first gear formed on a bottom face of the connection head, a second gear meshed with  
4 the first gear to be operateably connected to a motor such that when the motor is  
5 activated, the rotation of the second gear drives the first gear to rotate and the triangular  
6 prism is also rotated.

7           10. The 3D jigsaw puzzle as claimed in claim 4, wherein the rotating means  
8 includes a connection head mounted on a bottom end of the triangular prism and having  
9 a first gear formed on a bottom face of the connection head, a second gear meshed with  
10 the first gear to be operateably connected to a motor such that when the motor is  
11 activated, the rotation of the second gear drives the first gear to rotate and the triangular  
12 prism is also rotated.

13           11. The 3D jigsaw puzzle as claimed in claim 6, wherein the rotating means  
14 includes a connection head mounted on a bottom end of the triangular prism and having  
15 a first gear formed on a bottom face of the connection head, a second gear meshed with  
16 the first gear to be operateably connected to a motor such that when the motor is  
17 activated, the rotation of the second gear drives the first gear to rotate and the triangular  
18 prism is also rotated.

19           12. The 3D jigsaw puzzle as claimed in claim 4, wherein each triangular prism  
20 has openings defined in a top end of the triangular prism, a second connection head has  
21 a pole extending upward to be received in a top of the space in the frame and connection  
22 bosses extending downward into the openings of the triangular prism.

23           13. The 3D jigsaw puzzle as claimed in claim 5, wherein each triangular prism  
24 has openings defined in a top end of the triangular prism, a second connection head has



1 a pole extending upward to be received in a top of the space in the frame and connection  
2 bosses extending downward into the openings of the triangular prism.

3 14. The 3D jigsaw puzzle as claimed in claim 6, wherein each triangular prism  
4 has openings defined in a top end of the triangular prism, a second connection head has  
5 a pole extending upward to be received in a top of the space in the frame and connection  
6 bosses extending downward into the openings of the triangular prism.

7 15. The 3D jigsaw puzzle as claimed in claim 7, wherein each triangular prism  
8 has openings defined in a top end of the triangular prism, a second connection head has  
9 a pole extending upward to be received in a top of the space in the frame and connection  
10 bosses extending downward into the openings of the triangular prism.

11 16. The 3D jigsaw puzzle as claimed in claim 15, wherein each triangular prism  
12 has bottom openings defined in the bottom end of the triangular prism and the  
13 connection head has bosses formed on a top face of the connection head to fit into the  
14 bottom openings, wherein the first gear is formed on a bottom face of the connection  
15 head.

16 17. The 3D jigsaw puzzle as claimed in claim 3, wherein the top piece, the  
17 bottom piece and the mediate pieces respectively have a projection extending from a  
18 rear side of the top piece, the bottom piece and the mediate pieces, each side face of the  
19 triangular prism has multiple receiving holes corresponding to and receiving therein the  
20 projections of the top, the bottom and the mediate pieces.

21 18. The 3D jigsaw puzzle as claimed in claim 4, wherein the top piece, the  
22 bottom piece and the mediate pieces respectively have a projection extending from a  
23 rear side of the top piece, the bottom piece and the mediate pieces, each side face of the  
24 triangular prism has multiple receiving holes corresponding to and receiving therein the



1 projections of the top, the bottom and the mediate pieces.

2 19. The 3D jigsaw puzzle as claimed in claim 9, wherein the top piece, the  
3 bottom piece and the mediate pieces respectively have a projection extending from a  
4 rear side of the top piece, the bottom piece and the mediate pieces, each side face of the  
5 triangular prism has multiple receiving holes corresponding to and receiving therein the  
6 projections of the top, the bottom and the mediate pieces.